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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,045	10/12/2001	Randall L. Findley	BEERS 1-2-2	3709
47396	7590	03/10/2005	EXAMINER	
HITT GAINES, PC AGERE SYSTEMS INC. PO BOX 832570 RICHARDSON, TX 75083			FAN, CHIEH M	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,045

Applicant(s)

FINDLEY ET AL.

Examiner

Chieh M Fan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the quality and resolution of Fig. 2 is not good, which makes it difficult for the readers to identify the variables such as τ_{go} , τ_{cgo} mentioned in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt (U.S. Patent No. 5,859,550) in view of Sandusky (U.S. Patent No. 6,268,753).

Regarding claims 1, 8 and 14, Brandt teaches a synchronous sequential logic circuit, comprising: a system clock (115 in Fig. 1) that produces a reference clock signal; a plurality interconnected modules (120 in Fig. 1) that operate synchronously communicate data therebetween, each containing a phase-locked loop (PLL) (Fig. 5, col. 5, lines 15-22) that receives said reference clock signal and includes a digital feedback delay line (506 in Fig. 5). Brandt does teach that the digital feedback delay line comprises a plurality of taps, and tap selection logic, coupled to said digital feedback delay line, for activating one of said plurality of taps and thereby insert a corresponding delay into said PLL. Sandusky teaches a precision variable delay line whose delay is independent of process, voltage and temperature variations. The precision variable delay line comprises a plurality of taps (118, 120, 122, 124 in Fig. 4), and tap selection logic (110 in Fig. 4), coupled to said digital feedback delay line, for activating one of said plurality of taps and thereby insert a corresponding delay (col. 5,

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lines 3-8). As the feedback delay line of Brandt compensates for those delays provided by the internal clock distribution paths (col. 6, lines 30-32), it is desirable to provide precise delay compensation so as to maintain system integrity. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the precision variable delay line of Sandusky into the delay line of Brandt to precisely compensate various clock distribution delays to maintain system integrity.

Regarding claims 2, 3, 9, 10, 15 and 16, Sandusky teaches each of the taps comprises a switch (128-134 in Fig. 4). A switch is considered functionally equivalent to a 2:1 multiplexer.

Regarding claims 4, 11, and 17, Sandusky teaches that the digital feedback delay line has at least four taps (118-124 in Fig. 4).

Regarding claims 5, 12 and 18, Brandt in view of Sandusky does not specify the number of taps is 32. However, number of taps would not change the operation of the system, and the applicants do not disclose that the use of 32 taps provides an advantage or solves any stated problem. The number of taps is therefore merely a design option, dictated by system or user's requirement. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use 32 taps as required by the system.

Regard claims 6, 13 and 19, the PLL of Brandt drives a memory (134 in Fig. 1).

Regarding claims 7 and 20, Sandusky teaches that the taps selection circuit comprises a decoder (110 in Fig. 4) that receives selection signals input by the user

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(160 in Fig. 4) and outputs tap-selection signal to the switches (128-134 in Fig. 4). The decoder thus inherently comprises an input register (or an equivalent storage device) for receiving/processing the user's input signal and/or an output register (or an equivalent storage device) for outputting the tap-selection signal.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wright et al. (U.S. Patent No. 5,966,388) teaches a switch is a 2:1 multiplexer (col. 6, line 45). Eto et al. (see Fig. 1), Furman (U.S. Patent No. 6,075,398) (see Fig. 5), and Kyles (U.S. Patent No. 6,028,462) all teach a variable delay line.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (571) 272-3042. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chieh M Fan
Primary Examiner
Art Unit 2634

March 6, 2005